

What is claimed is:

1. A device, comprising:
a chemical hydride core; and
an elongate moisture barrier encasing said core, said barrier being of sufficient length and
5 flexibility to be wrapped around a spool.
2. The device of claim 1, wherein said core comprises a plurality of discrete chemical hydride bodies.
3. The device of claim 2, further comprising:
a spool, said barrier being wrapped around said spool.
- 10 4. The device of claim 2, wherein said plurality of discrete chemical hydride bodies comprise one or more alkali hydrides.
5. The device of claim 2, wherein said plurality of discrete chemical hydride bodies are selected from the group consisting of NaH and NaBH₄.
6. The device of claim 2 wherein said barrier comprises a thermoplastic.
- 15 7. A device comprising:
a plurality of discrete chemical hydride bodies; and
an elongate moisture barrier encasing said plurality of said bodies, said barrier being of sufficient length and flexibility to be wrapped around a spool.
8. The device of claim 7, wherein said barrier comprises a thermoplastic.
- 20 9. The device of claim 8, wherein said plurality of discrete chemical hydride bodies comprise one or more alkali hydrides.
10. The device of claim 7 wherein said plurality of discrete chemical hydride bodies are selected from the group consisting of NaH and NaBH₄.
11. A device, comprising:
25 a reaction chamber;
a spool;
a fuel source wrapped around said spool, said fuel source comprising a chemical hydride core and an elongate moisture barrier encasing said core, said fuel source passing from said spool to said reaction chamber; and

means for removing said barrier from said core for reaction of said core within said reaction chamber.

12. The device of claim 11, wherein said chemical hydride core is selected from the group consisting of NaH and NaBH₄.

5 13. The device of claim 12, wherein said barrier comprises a thermoplastic.

14. The device of claim 11, further comprising a storage chamber operably connected to said reaction chamber for receiving and storing reaction products from said reaction chamber.

15. The device of claim 11, further comprising:

a second reaction chamber;

10 an aluminum feedstock; and

means for supplying said aluminum feedstock and H₂O to said second reaction chamber.

16. A method of generating H₂ gas, comprising:

(a) providing a fuel source comprising first and second discrete chemical hydride bodies, and an elongate moisture barrier encasing said first and second discrete chemical hydride bodies;

15 (b) removing a first portion of said barrier to expose said first discrete chemical hydride body; and

(c) reacting said exposed first discrete chemical hydride body with H₂O.

17. The method of claim 16, further comprising:

after step (c), removing a second portion of said barrier to expose said second discrete chemical hydride body; and

20 reacting said exposed second discrete chemical hydride body with H₂O.

18. The method of claim 16, wherein said first portion of said barrier is stored on a spool, and further comprising:

before step (b), unrolling said first portion of said barrier from said spool.

25 19. The method of claim 16, wherein step (c) takes place in a first reaction chamber, and further comprising:

transferring heat from said first reaction chamber to a second reaction chamber;

passing Al and H₂O into said second reaction chamber; and

reacting said Al and H₂O in said second reaction chamber.

20. The method of claim 18, further comprising:

before reacting said Al and H₂O, obtaining a temperature in said second reaction chamber that is substantially within a range of from approximately 170°C to approximately 210°C.